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### **Subsidized Education and Quality of Education in Secondary Schools in Eldoret East Sub-County**

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#### **ABSTRACT**

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*The purpose of this study was to establish the effect of subsidized secondary education on quality of education. The study sought to determine general teacher to student ratio; teacher to student ratios in urban and rural schools, student to book ratio before and after implementation of subsidized secondary education and the availability of physical facilities in*

*secondary schools in Eldoret East sub-County. The study adopted descriptive survey design. Sample selection was made using stratified sampling, simple random sampling, and purposive sampling. Self-administered questionnaires and document analysis were used to collect data. The data were analyzed using descriptive statistics data, and the significance of the results determined using t-test at 95% confidence level. The findings of this study revealed that the teacher to student ratio had increased implying that with the increase in student enrolment the number of teachers had remained the same ( $p \geq 0.5$ ). The Government subsidy on textbooks had effectively improved the textbook to student ratio. The study recommended that the government should increase the number of teachers and the available teachers equitably distributed.*

#### **Introduction**

The World Declaration on Education for all (1990) recommended that education be made both universally available and more relevant also noted that the poor quality of education needed to be improved. Expanding access alone would be insufficient for education to contribute fully to the development of the individual and society. Improving the quality of their education leads to an increase in children's

cognitive development. The Dakar Framework for Action declared that access to quality education was the right of every child and a fundamental determinant of enrolment, retention, and achievement. Quality Education is key to national development and is achievable through quality education to all citizens.

Access to quality, relevant and affordable secondary education has remained a

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problem to many Kenyans as is evident from the lower primary to secondary transition rates, gender disparities where more boys than girls are enrolled and enrolment that favors the rich. The major hindrances include high costs, high levels of poverty, extra levies for private tuition, unfriendly environment especially for children from poor households and those with special needs. Children from poor backgrounds in most cases are not able to afford these costs, and that is why the Government of Kenya officially launched the Subsidized Secondary Education (SSE) programme at the beginning of 2008 (MOE, 2007).

In introducing the SSE in Kenya, the major aim was to expand and promote equitable access to secondary education (Lewin, 2007) in addition to improving the quality of education in both rural and urban schools. The quality of education offered at any school, measured by the school's enrolment level and attendance by children and influences access. Where there is low quality of education, the attendance level may be low. On the other hand, schools that offer quality education are attractive and may end up with increased enrolment. Promotion of equitable access to education, therefore, must be linked to improved quality of education in schools (Aturupane, 2009). It is important that in addition to participating in the education system, the children's educational experience should ensure that they reach the levels of cognitive skills, competencies, and cultural and social dimensions of learning, which are indicators of education quality according to the national education system curriculum (Aturupane, 2009).

With the high expenditure financed by citizens through taxes and loans and donations from development partners, it is very important that SSE achieve its objective of ensuring that children from poor households acquire a quality education that will enable them access

opportunities for self- advancement and become productive members of society (Kibaki, 2008). However, there is concern over the relationship between increased enrolment and the effect of this on quality of education offered. This study sought to determine the effect of subsidized secondary education on the teacher to student ratio, and student to book ratio in Eldoret East District in Kenya.

### **Research Design**

This study adopted Descriptive survey design. The target population comprised of 36 public secondary schools of which six were boys boarding, seven were girls boarding, and 23 were co-educational day schools. The study focused on form 2 students because they are the pioneers of the subsidized secondary education. Two hundred students, Twenty Four class teachers and Thirteen Headteachers from thirteen randomly selected schools (30%) in Eldoret East district participated in the present study. Stratified sampling was used to select girls' boarding schools, boys' boarding schools, urban and rural day schools. The head teachers and class teachers were selected through purposive sampling after the schools were selected. Descriptive methods were employed and data presented in the form of frequency distribution tables, graphs and pie charts that facilitated description and explanation of the study findings. Reliability was established through, pre-testing through pilot and the reliability coefficient was determined using the test-retest method. The reliability coefficient was calculated using Pearson's Product Moment Correlation Coefficient that yielded a correlation of 0.7.

## **RESULTS AND DISCUSSIONS**

### **Teacher to Student Ratio**

The study sought to establish the teacher-student ratio as this is a quality determinant in education. Teacher to

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student ratio was sought in the sub-county and then in the rural and urban areas.

**Table 1 .1: Teacher: Student Ratio**

Year	General	Rural	Urban
2006	1:20	1:20	1:12
2007	1:21	1:22	1:13
2008	1:22	1:24	1:17
2009	1:23	1:25	1:20

As shown in the table, the general teacher: student ratio was 1: 20; 1:21; 1:18; 1:23 in 2006; 2007; 2008 and 2009 respectively. In 2006, the teacher: student ratio was 1:20 in rural schools whereas it was 1:12 in urban schools. In 2007 the teacher: student ratio in rural schools was 1:22 and 1:13 in urban schools. The teacher: student ratio in 2008 was 1:24 in rural schools and 1:17 in urban schools. In 2009, the teacher: student ratio in rural schools was 1:25 whereas it was 1:20 in urban schools. The data shows that there was a significant  $P = -3.147$  general teachers to student ratio and rural teacher to student ratio in the selected public secondary schools in Eldoret East sub-county implying that with an increase in enrolment the number of teachers remained the same thus reducing the

teacher to student ratio. There was an insignificant difference however at  $P = -9.015$  in the teacher-student ratio in urban schools showing that there was a low teacher to student ratio before subsidized secondary education. With the increase in student enrolment, the number of teachers did not change, or the change was not noticeable.

#### **Text Book to Student Ratio**

As shown in Table 1.2, 7.7% of the schools included in this study had attained a textbook: student ratio of 1:1. The majority (38.5%) of the respondents stated that their schools had a ratio of 1:4 whereas 23% (3) and 15.4% (2) had textbook: student ratio of 1:5 and above 1:5 respectively in the year 2006.

**Table 1.2 Textbook to student ratio**

Ratio	2006		2007		2008		2009	
	F	%	F	%	F	%	F	%
1:1	0	0	0	0	1	7.7	3	23.0
1:2	1	7.7	2	15.4	2	15.4	7	54.0
1:3	2	15.4	3	23.0	5	38.5	3	23.0
1:4	5	38.5	5	38.5	4	30.7	0	0
1:5	3	23.0	2	15.4	1	7.7	0	0
>1:5	2	15.4	1	7.7	0	0	0	0
<b>Total</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>

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After the implementation of SSE in 2008, 15.4 % (2) of the headteachers stated that their schools had attained the 1:2 ratios and in 2009, 54 % (7) of the schools had attained a textbook: student ratio of 1:2.

### Physical Resource availability

The Information on the availability of physical resources obtained from the students and class teachers is shown in Table 1.3.

**Table 1.3: Physical Resource availability**

	VS		S		FS		I		D		Total	
	F	%	f	%	F	%	F	%	f	%	F	%
Classrooms	38	19.0	68	34.0	59	29.5	30	15.0	5	2.5	200	100.0
Desks/chairs	27	13.5	74	37.0	67	33.5	27	13.5	5	2.5	200	100.0
Games facilities	22	11.0	32	16.0	73	36.5	56	28.0	17	8.5	200	100.0
Toilets	32	16.0	57	28.5	49	24.5	35	17.5	27	13.5	200	100.0
Laboratories	39	19.5	40	20.0	53	26.5	45	22.5	23	11.5	200	100.0
Space	53	26.5	62	31.0	38	19.0	29	14.5	18	9.0	200	100.0

The table shows that classroom was very sufficient, sufficient and fairly sufficient according to 19.0%, 34.0% and 29.8% of the respondents respectively. Also, 15.0% of the respondents reported the classrooms were insufficient while the rest of the respondents (2.5%) were not able to comment. Further, the table shows that 13.5%, 37.0% and 33.5% of the respondents reported that desks/chairs were very sufficient, sufficient and fairly sufficient respectively. Those who reported that the desks/chairs were insufficient were 13.5% while those who could not comment were 2.5%. At the same time, games facilities were reported by 11.0%, 16.0% and 36.5% of the respondents as very sufficient, sufficient and fairly sufficient respectively. The facilities were not sufficient according to 28.0% while 8.5% of the respondents found it difficult to comment.

Further, the toilets were reported to be very sufficient, sufficient and fairly sufficient by 16.0%, 28.5% and 24.5% of the respondents while those who felt they were not sufficient were 17.5%. The remaining 13.5% could not comment. Concerning laboratories, 19.5%, 20.0% and 26.5% of the respondents reported that they were very sufficient, sufficient and fairly insufficient respectively. Those who were of the view that the laboratories were

insufficient were 22.5% and 11.5% of the respondents did not comment. Space was viewed as very sufficient and fairly sufficient by 26.5%, 31.0% and 19.0% of the respondents while 14.5% were of the opinion that it was insufficient. The remaining 9.0% did not comment.

### DISCUSSION

Research shows that high teacher to student ratio led to individual students receiving less attention. In such a scenario, teachers tend to focus on rote learning, rather than on problem-solving skills (Psacharopoulos & Woodhall, 1985). High pupil-teacher ratios can signify an overstretched teaching staff, while low ratios may represent additional capacity (UNESCO, 2006). With the increase in enrolment as a result of Subsidized Secondary Education, the government should put in place strategies of employing more teachers so that the quality of education is assured.

The findings of this study also show that government subsidy on textbook had effectively improved the textbook: student ratio. Availability of books and other printed materials in school classrooms and libraries was associated with higher student performance in the language arts (Heyneman, 2006; Mullis *et al.*, 2003). Measures of the availability and use of

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textbooks, written materials, and Internet-based information are important indicators of school-based literate environments. Glewwe *et al.*, (2000) and UNESCO (2008) found out that, the provision of textbooks can substantially improve educational outcomes in developing countries. A ratio of 1:1 is ideal since the reading materials are made available to each student, and there is no sharing. Each student is in full control of the reading materials and can be able to plan his or her time appropriately within the term and during the year. If the textbook: student ratio of 1:the government can achieve 1 in all the public schools then the quality of education can be assured.

The results above indicate that most schools have underutilized resources. With the increased enrolment, a majority of schools reported sufficiency in physical facilities apart from libraries that were reported by all as insufficient. Mutai (2006); Yadar (2007) and report by UNESCO (2008) opined that teaching/learning materials such as textbooks, classrooms and teaching aids, stationeries and laboratories affect academic performance and strengthened learning. Research has revealed that physical facilities are a fundamentally important factor in both school attendance and achievement. Research reports from developing countries show that low levels of learning among children are due to poor and inadequate facilities in school

(Heyneman, 1980). An investigation conducted in Nigeria (Urwick & Janaidu, 1983) formed the conclusion that facilities like buildings, separate classrooms, and students' desks, determine the very organization of teaching/learning activities.

Research in India indicated that the existence of school desks are important if a school has to be a success (Varghese, 1995). Onah and Ugwu, (2010) in a study in Nigeria reported that the constraint to quality science education in Nigeria is inadequate laboratory equipment/facilities in schools. Adenuga (2002) attributed the decline in education quality to low and declining level of key inputs such as infrastructural materials, laboratories, libraries and teaching facilities and workforce among others.

## CONCLUSIONS

The study established that teacher: student ratio had increased from 1:20 in 2006 to 1:23 in 2009. The ratio was lower in urban schools (1:12 in 2006 to 1:20 in 2009) and higher in rural schools (1:20 in 2006 to 1:25 in 2009). The student: textbook ratio had improved from 1:5 in 2006 to 1:2 in 2009.

## RECOMMENDATIONS

Teachers should be employed in proportion to the student enrolment to keep ratios low. Ways of sustaining the student: the textbook ratio of 1:1 should be devised to maintain the quality of education.

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